

ABSTRACT

The present invention relates to Lithium Metal batteries. In particular, it is related to lithium metal batteries containing a polyimide-based electrolyte. The present invention concerns a new concept of polyimide-based electrolytic component having an electrolyte consisting of at least one solvent and at least one alkali metal salt, with specific amounts of solvents, to optimize the properties of conductivity of the polyimide-based electrolyte and the mechanical properties of the polyimide-based electrolyte separator towards metallic lithium anode to prevent dendrites growths.